

REMARKS

In the Office Action, claims 1-29 were rejected. Claims 30-37 were intended to be canceled by a previous Response, but their listing as such was inadvertently omitted. They are correctly noted on the present paper as "canceled". Claims 1-29 are pending. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 102

The Office Action stated claims 1-5, 10, 11 and 13 as rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2005/0028892 (hereinafter "Sasaki"). The Examiner stated that Sasaki discloses in Table 1 (page 13) of paragraph 17, a comparative example 13, which contains Pr comprising at least 30 weight percent of the rare earth content of the composition, Fe comprising at least 50 weight percent of the transition metal content, and the alloy contains 0.39 weight percent oxygen.

Applicants respectfully submit that Sasaki fails to teach or even suggest any composition which contains more than or even equal to 30 weight percent of Pr. The composition disclosed with respect to the comparative example 13 refers to a magnet composition that has a Pr content of less than 30 weight percent. The cited example 13 refers back to another example 11 to teach the magnet composition. As recited in example 11 at page 11, paragraph 153, lines 1-7, Sasaki teaches a composition having Pr content of less than 30 weight percent. The passage, referring to example 11 reads in part:

Neodymium, praseodymium, ferroboration, aluminum, and iron were mixed to thereby obtain the following alloy composition: TRE: 28.5% by mass (Nd: Pr=1:1 (in R)); B: 1.00% by mass; Al: 0.30% by mass; and a balance of iron. The resulting mixture was melted in an alumina crucible in an argon gas atmosphere (1 atm) by use of a high-frequency induction melting furnace.

Accordingly, the description of example 11 (and example 13) teaches employing rare earth in an amount of 28.5%, where rare earth is a combination of Pr and Nd in a 1:1 ratio, therefore the Pr content in this composition can never exceed 14.25%. Hence, the composition suggested in example 13 can never be similar to the composition of the claimed invention that discloses employing a weight percent of Pr more than or equal to 30%.

In another passage of Sasaki, at page 3, paragraph 36, lines 1-11, while reciting the first aspect of the purported invention, Sasaki teaches a composition of the main phase alloy for a rare earth magnet, where the composition employs less than 30 percent Pr. The cited passage reads:

[A] main phase alloy for a rare earth magnet to be processed through the two-alloy blending method, the alloy containing R(R represents at least one rare earth element including Y) in an amount of 26 to 30% by mass and B in an amount of 0.9 to 1.1% by mass, with the balance being T (T represents transition metals including Fe as an essential element), characterized in that R has a Pr content of at least 5% by mass and the main phase alloy has a percent volume of region containing α -Fe on the basis of the entire microstructure of 5% or less.

Accordingly, the composition in Sasaki employs a rare earth alloy in an amount of 26 to 30%, *where Y is included in the alloy*. Therefore, the composition in Sasaki can never have Pr percent of even 30 weight percent. In other words, the amount of Pr in the compositions suggested by Sasaki will always remain below 30 weight percent. As a result, Sasaki does not teach the magnet composition of the claimed invention where the minimum Pr amount is at least 30 weight percent.

Applicants note that the claimed invention provides advantages associated with employing higher Pr amounts in the composition. For example, in a passage at paragraph 15, lines 1-11 of the application, reasons for employing higher Pr amounts are discussed:

The present inventors have discovered that rare earth – transition metal – boron permanent magnet alloys have a high corrosion resistance when these alloys have a praseodymium (Pr) rich content and a low oxygen content below 0.6 weight percent. These Pr rich permanent magnet alloys exhibit acceptable remanence, coercivity and energy products for use in an MRI system and in other applications while remaining highly resistant to corrosion / oxidation under ambient conditions for long periods of time, this increasing their usable shelf life. For example, the Pr rich, low oxygen content permanent magnet alloy is capable of remaining substantially corrosion free for at least four years at atmospheric ambient in an uncoated state. A Pr rich permanent magnet alloy is an alloy where at least 30 weight percent of the rare earth content of the alloy comprises Pr.

In contrast, Sasaki teaches *against* employing higher Pr content. Sasaki suggests that Pr can be employed *only as high as 10 percent*. For example, as cited in a passage at paragraph 20, lines 5-8, Sasaki mentions *the disadvantages of having higher than 10 percent concentration of Pr* in the composition. The cited passage reads:

[T]he Pr content of R can be elevated up to about 10% by mass, because Pr is chemically active as compared with Nd. Such high chemical activity causes problematic oxidation during production of magnets or in the produced magnets.

For the reasons summarized above, Sasaki cannot, therefore, anticipate independent claims 1 and 13. Accordingly, Applicants request the Examiner to reconsider the rejections. Applicants submit that claims 2-5, 10 and 11 are allowable by virtue of their dependency from allowable base claims, as well as for the subject matter they separately recite.

Rejections Under 35 U.S.C. § 103

The Office Action summarizes claim 12 as rejected under 35 U.S.C. §103(a) as being unpatentable over Sasaki. Further, the Office Action summarizes claims 14-19 and 21-26, 28 and 29 as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6518867 (hereinafter "Laskaris") in view of Sasaki. Furthermore, the Office Action summarizes claims 1-29 as rejected under 35 U.S.C. §103(a) as being unpatentable over Sasaki in view of Laskaris.

Applicants respectfully submit that in view of the arguments set forth above, and particularly the fact that Sasaki fails to teach using Pr in an amount of at least 30 percent, and indeed teaches away from higher Pr levels, claims 1-29 are allowable. Further, the secondary reference, Laskaris, fails to overcome the deficiencies of Sasaki with regard to the composition of the permanent magnet.

Double Patenting


The Examiner rejected claims 14-17 provisionally in view of copending application 10/309,146 in view of Sasaki. Applicants will consider a possible Terminal Disclaimer should that be deemed appropriate later in prosecution. However, because the rejection on this grounds is provisional, and the copending application is not allowed, Applicants note that should this be the only rejection remaining following the reconsideration requested herein, the rejection could not stand. Accordingly, Applicants request that the provisional rejection be held in abeyance pending reconsideration of the other rejections formulated by the Examiner.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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